

# LE “LOUIE” CAI

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I am an undergraduate student at UC San Diego studying Data Science with a strong foundation and interest in machine learning, software development, and data analysis, enhanced by practical experience through internship and projects.

## EDUCATION

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**University of California, San Diego, Data Science B.S.**

**Sept 2020 – Jun 2024 (Planned)**

- **GPA:** 3.7
- **Minor:** Computer Engineering
- **Relevant Coursework:** Machine Learning, Deep Learning, NLP, Data Analysis, Computer Organization and Systems Programming, Data Structures & Object-Oriented Design, Differential Equations, Linear Algebra, Probability and Statistics, Discrete Mathematics, Components and Design Techniques for Digital Systems

## EXPERIENCE

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**Software Development Engineer Intern | Amazon**

**Jun – Sept 2023**

- Utilized React and TypeScript to streamline backend database onboarding with a front-end internal tool.
- Collaborated in an Agile team to ensure responsive and user-friendly interfaces.
- Optimized tool performance using Git, resulting in significantly improved loading times.

**CSE Tutor - CSE 8A | UC San Diego**

**Sept – Dec 2023**

- Held office hours and helped students with their questions
- Created scripts to generate class grades from different data sources

## PROJECTS

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**Tiktok Reddit Video Automator ([GitHub](#))**

**Aug – Dec 2022**

- Developed a Python-based automation tool for downloading trending videos from various subreddits using Reddit's API, and for uploading them to TikTok using Selenium.
- Configured and deployed the script on a server for automated video posting, featuring customizable options like rest intervals and subreddit targeting.

**Convolutional Neural Network Image Classification ([Analysis](#))**

**Feb 2022**

- Engineered custom convolutional neural networks using PyTorch to classify 20 distinct categories of food images.
- Led the development and training of the neural network with PyTorch and CUDA, systematically refining network performance through architectural adjustments and hyperparameter tuning.
- Visualized and conducted in-depth analysis of feature maps and filters using Matplotlib.

**Minecraft Mod Development ([GitHub](#))**

**Jun – Dec 2020**

- Achieved over **2.9 million** downloads on [CurseForge](#) for the Minecraft plugin developed.
- Engineered a plugin to enhance the player experience in Minecraft by introducing interactive in-game items.

## ACTIVITIES

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**IEEE F1TENTH IV2023 Championship - Anchorage ([Website](#))**

**Jun 2023**

- Constructed two autonomous 1/10 scale RC cars, each equipped with LiDAR sensors and cameras, enabling precise navigation on a racetrack.
- Led the development of advanced navigation algorithms using ROS2 and DonkeyCar.
- Represented UC San Diego and secured fourth place in the championship.

## SKILLS

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- **Programming Languages:** Python, R, SQL, Java, C, C++, C#, Bash, HTML, CSS, Typescript
- **Machine Learning/Big Data:** Machine Learning, Deep Learning, pandas, NumPy, matplotlib, scikit-learn, PyTorch, BeautifulSoup4, Request, Selenium, Plotly, FastAPI
- **Framework/Tools:** React, JavaFX, Unity, Linux, Docker, Blender, Gradle, Vim, Git, Jupyter